

SWOT-Based Analysis of Threats in Online Curriculum Transaction among Undergraduate Teaching Faculty

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Abstract:

The present study examines the perceived external threats experienced by undergraduate teaching faculty during online curriculum transactions by adopting a SWOT-based analytical framework. Data were collected using a structured and validated questionnaire administered to 50 undergraduate faculty members from colleges affiliated with the University of Mysore, Karnataka, India. The findings revealed that perceptions of external threats were widespread with 50% of the participants showing significant external threats, whereas 38 % shows considerable threats and 12 per cent experiencing potential threats. None of the participants perceived the threats to be minimal or negligible. Gender-wise analysis revealed that a higher proportion of female faculty members (34 per cent) showed significant external threats compared to their male faculty (16 per cent), suggesting greater perceived vulnerability among female faculty. Stream-wise analysis showed that 28 per cent of Arts faculty and 22 per cent of science faculty experienced significant external threats during online teaching. The independent samples *t*-tests revealed no statistically significant differences in threat perception based on gender ($t = 1.37, p > .05$) and academic stream ($t = 0.67, p > .05$). The results underscore the pervasive nature of external challenges in online teaching environments which includes inadequate technological infrastructure, cybersecurity concerns and limited institutional support. The consistency of threat perceptions across demographic categories points to systemic issues affecting online curriculum delivery rather than individual and disciplinary differences. The study emphasizes the need for strategic institutional interventions such as strengthening digital infrastructure, offering focused professional development, enhancing digital competence and ensuring access to secure and reliable online platforms. These challenges are critical for supporting undergraduate teaching faculty and for sustaining the quality and effectiveness of online education in undergraduate institutions.

Keywords — *SWOT analysis, online curriculum transaction, undergraduate teaching faculty, external threats, higher education.*

I. INTRODUCTION

The rapid digital transformation of higher education, particularly during and after the COVID-19 pandemic, has significantly reshaped traditional modes of teaching and learning. One of the most affected aspects in this transformation is curriculum transaction—the planned, purposeful, and systematic delivery of curriculum content by educators. In this evolving context, undergraduate teaching faculty across disciplines have had to

adapt rapidly to online platforms, often in the absence of adequate institutional preparedness, infrastructure, or training.

A useful framework to understand this shift is SWOT analysis, which examines Strengths, Weaknesses, Opportunities, and Threats associated with a given system or process. While strengths and opportunities are generally perceived as enabling factors, threats represent external barriers and risk factors that may hinder effective online curriculum delivery. These threats are largely beyond the

immediate control of individual faculty members and often emerge from systemic, technological, institutional and socio-political conditions.

In the context of online curriculum transaction, threats may include, but are not limited to, the following: inadequate digital infrastructure, insufficient institutional support and unclear policy frameworks, cybersecurity and data privacy concerns, low digital literacy among faculty and students, technological disruptions and dependence on external platforms and service providers, and negative perceptions and resistance to online education among stakeholders.

These threats can substantially influence the confidence, effectiveness, and motivation of undergraduate teaching faculty when engaging in online teaching. Identifying and understanding the nature and intensity of such threats is essential for policy-makers, administrators, and teacher educators to design effective support mechanisms and interventions.

The present study focuses specifically on the “Threats” dimension of the SWOT framework in the context of online curriculum transactions conducted by undergraduate teaching faculty in undergraduate colleges affiliated with the University of Mysore. It seeks to examine the levels of perceived threats and to determine whether significant differences exist based on gender and academic stream (Arts and Science).

II. Review of Related Literature

The rapid shift to online teaching, accelerated by global crises such as the COVID-19 pandemic, has exposed a range of external threats that hinder the effectiveness of digital curriculum transaction in teacher education. Several studies have examined these threats, offering insight into how teacher educators confront technological, institutional, and socio-emotional challenges in online teaching environments.

According to Gul et al. (2023), inadequate internet access and lack of proper hardware affected over 90% of educators during the initial phases of online teaching, particularly in rural and under-resourced regions. These infrastructural limitations severely limit the ability of teacher educators to consistently deliver online instruction. Similarly,

Wen (2023) reported that educators experienced frequent disruptions due to limited bandwidth and outdated digital devices, which posed a barrier to equitable teaching and learning experiences.

Another prominent threat is cybersecurity and data privacy risks. Khatun (2024) emphasized that educational platforms have become vulnerable to a variety of cyber threats, including unauthorized access, phishing, and identity theft. These risks not only threaten institutional data security but also undermine trust in digital learning platforms. Lallie et al. (2023) further observed that higher education institutions are particularly at risk due to their reliance on third-party software and lack of robust internal IT security protocols.

Pedagogical challenges and reduced student engagement also pose serious threats to effective curriculum delivery. Research by Wen (2023) and studies published in *Frontiers in Education* (2024) indicate that many teacher educators struggle to maintain student motivation, adapt traditional content to digital formats, and implement reliable methods for student assessment. The lack of real-time interaction, limited feedback mechanisms, and student distractions in home environments contribute to a decline in engagement and learning outcomes. In terms of institutional support, many teacher educators report insufficient training and unclear policy guidance related to online teaching. Wen (2023) highlighted that the absence of structured institutional support leads to confusion in adopting new tools and creates a disconnect between administrative expectations and ground-level teaching practices. This misalignment acts as a threat to both the quality of instruction and educator morale. The shift to online education has also raised concerns about mental health and physical well-being. Prolonged screen time, social isolation, and increased workload have resulted in burnout among educators (Wen, 2023). Moreover, physical health concerns such as eye strain, posture-related discomfort, and chronic fatigue have been reported, highlighting the need for ergonomic considerations in remote teaching setups.

Lastly, academic integrity and digital ethics are under constant threat in virtual environments. Issues such as plagiarism, use of unauthorized materials, and challenges in monitoring student

performance raise concerns about the fairness and reliability of online assessments (Khatun, 2024). These ethical concerns underscore the need for developing better assessment frameworks and integrity-promoting technologies.

III. Statement of the Problem

“SWOT-Based Analysis of Threats in Online Curriculum Transaction among Undergraduate Teaching Faculty”

IV. Objectives of the Study

1. To assess the level of threats of online curriculum transaction among undergraduate teaching faculty of undergraduate colleges.
2. To assess the level of threats of male and female undergraduate teaching faculty with respect to online curriculum transaction in undergraduate colleges.
3. To assess the level of threats of Arts and Science undergraduate teaching faculty with respect to online curriculum transaction in undergraduate colleges.
4. To examine the significant difference in the threats of online curriculum transaction between male and female undergraduate teaching faculty.
5. To examine the significant difference in the threats of online curriculum transaction between Arts and Science stream undergraduate teaching faculty.

V. Hypotheses of the Study

H1: There is no significant difference in the threats of online curriculum transaction between male and female undergraduate teaching faculty in undergraduate colleges.

H2: There is no significant difference in the threats of online curriculum transaction between Arts and Science stream undergraduate teaching faculty in undergraduate colleges.

VI. Research Design

The present study adopted a descriptive survey research design. The design was considered appropriate because as the study aimed to describe

the level of perceived threats related to online curriculum transactions and to determine whether differences existed based on gender and academic stream.

VII. Population and Sample

The population of the study consisted of all undergraduate teaching faculty working in undergraduate colleges affiliated with the University of Mysore, Karnataka, India. From this population, a sample of 50 undergraduate teaching faculty members was selected using a stratified random sampling technique

VIII. Instrumentation

A self-constructed tool titled SWOT Analysis of Online Curriculum Transaction of **Teacher Educators (SWOT-OCTTE)** was used to collect data. For the purpose of this study, only the subscale relating to Threats was employed. This subscale consisted of 29 items distributed across 13 components representing key threat domains relevant to online curriculum transaction (e.g., infrastructural issues, technological challenges, institutional support, cybersecurity concerns, and student-related factors).

Each item was rated on a 5-point Likert scale ranging from “Strongly Disagree” to “Strongly Agree.” Higher scores indicated higher perceived threats in online curriculum transaction.

IX. Procedure

After obtaining necessary permissions from the concerned authorities, the researcher personally visited selected undergraduate colleges affiliated with the University of Mysore. The purpose of the study was explained to the participants, and informed consent was obtained. The Threats subscale of the SWOT-OCTTE instrument was then administered. Participants were assured of confidentiality and anonymity. Completed instruments were collected and checked for completeness before analysis.

X. Data Analysis

Data were analysed using both descriptive and inferential statistics. Descriptive statistics such as mean, standard deviation and percentage were

used to describe the levels of perceived threats. Inferential statistics, specifically independent samples *t* tests were employed to examine significant differences in perceived threats based on gender and academic stream. The level of significance was set at .05.

XI. Results

XI.A. Overall Levels of Perceived Threats

Analysis of the data indicated that 50% of the undergraduate teaching faculty experienced Significant External Threats, 38% experienced Considerable Threats, and 12% experienced Potential Threats in online curriculum transactions. No participants fell into the categories of Low-Level Threats or Minimal Threats. This distribution suggests a high overall level of perceived external threats among the sample.

XI.B. Threats by Gender

When analysed by gender, 34% of female faculty and 16% of male faculty reported Significant External Threats. Although the percentage of female faculty reporting higher threats was greater, the independent samples *t* test revealed that this difference was not statistically significant, $t(48) = 1.37$, $p > .05$. Hence, the null hypotheses regarding gender were retained, indicating that there is no significant difference in the level of threats of online curriculum transaction between male and female undergraduate teaching faculty.

XI.C. Threats by Academic Stream

With respect to academic stream, 28% of Arts faculty and 22% of Science faculty reported Significant External Threats. The mean score for Arts faculty was 101.23 (SD = 15.22), whereas the mean score for Science faculty was 98.33 (SD \approx 15.26). An independent samples *t* test showed that this difference was not statistically significant, $t(48) = 0.67$, $p > .05$. Thus, the null hypotheses regarding academic stream were retained, indicating that there is no significant difference in perceived threats between Arts and Science undergraduate teaching faculty.

XII. Discussion

The findings of the present study reveal that a substantial proportion of undergraduate teaching faculty perceives high levels of external threats in conducting online curriculum transactions. The absence of respondents in the low-threat categories underscores the pervasive nature of these challenges across the sample.

The high prevalence of Significant and Considerable Threats supports earlier research that has pointed to infrastructural limitations, technological barriers, and institutional gaps as major obstacles to effective online teaching. The presence of substantial threats despite institutional affiliation with a recognized university suggests that systemic issues extend beyond individual colleges and may reflect broader challenges in the higher education ecosystem.

Although female faculty and Arts stream faculty reported slightly higher perceived threats, the differences were not statistically significant. This suggests that external threats related to online curriculum transactions are relatively uniform across gender and academic stream categories. In other words, the challenges associated with online teaching appear to affect undergraduate teaching faculty broadly, irrespective of demographic or disciplinary differences.

The findings also highlight the importance of institutional support in mitigating external threats. Inadequate infrastructure, limited access to reliable internet, and insufficient technical and pedagogical training likely contribute to heightened perceptions of threat. Similarly, concerns related to cybersecurity, privacy, and academic integrity can undermine faculty confidence in digital platforms.

Given the continued integration of online and blended learning in higher education, these threats cannot be viewed as temporary or exceptional. Rather, they demand sustained attention from policy-makers, institutional leaders, and education planners to ensure that faculty are adequately equipped and supported.

XIII. Educational Implications

- ✓ Strengthening Digital Infrastructure: Institutions must prioritize investment in

reliable internet connectivity, updated hardware, and robust learning management systems to reduce infrastructural threats.

- ✓ Capacity-Building and Professional Development: Regular training programs should be organized to enhance faculty digital literacy, pedagogical skills for online teaching, and familiarity with emerging technologies and tools.
- ✓ Institutional Support and Clear Policy Frameworks: Clear guidelines, supportive leadership, and accessible technical support are necessary to reduce uncertainty and stress among faculty members.
- ✓ Cybersecurity and Data Protection: Institutions should implement strong cybersecurity protocols and educate faculty and students about safe online practices to mitigate security-related threats.
- ✓ Well-Being and Workload Management: Policies that acknowledge the workload and health implications of online teaching can help prevent burnout, including guidelines for reasonable online teaching loads and appropriate expectations for availability.
- ✓ Improved Assessment Practices: Developing robust online assessment strategies and tools can help address concerns related to academic integrity and fairness in evaluation.

XIV. Suggestions for Further Research

- ✓ Extend the inquiry to a larger and more diverse sample across multiple universities and regions.
- ✓ Conduct comparative studies between undergraduate and postgraduate teaching faculty to examine differences in perceived threats.
- ✓ Explore the other dimensions of SWOT (Strengths, Weaknesses, and Opportunities) in relation to online curriculum transactions.

- ✓ Use mixed-methods approaches, combining quantitative surveys with qualitative interviews or focus groups, to gain deeper insights into faculty experiences.
- ✓ Investigate the impact of specific institutional interventions on reducing perceived threats over time.

XV. Conclusion

The present study underscores that undergraduate teaching faculty encounter substantial external threats in conducting online curriculum transactions. The dominance of Significant and Considerable Threats categories, combined with the absence of low-threat responses, indicates that these challenges are widespread and systemic. While minor variations in perceived threats were observed across gender and academic stream, these differences were not statistically significant, suggesting that external threats affect faculty members across demographic and disciplinary boundaries.

Addressing these threats requires coordinated and sustained efforts at multiple levels, including policy reforms, infrastructural investments, capacity-building initiatives, and supportive institutional cultures. As online and blended learning continue to shape the future of higher education, it is imperative that undergraduate teaching faculty are empowered with the necessary resources, skills, and support to navigate external threats effectively and to ensure the delivery of high-quality, equitable education.

XVI. References

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